

REMARKS

In response to the final Office action dated October 10, 2008, Applicants respectfully request reconsideration based on previous amendments and the following remarks. Applicants respectfully submit that the claims as presented are in condition for allowance.

Claims 6-13 and 20-25 are pending in the present application.

Applicants gratefully acknowledge the Examiner's noting the allowable subject matter in claim 22.

No new matter has been introduced by the following remarks, as now amendments have been made. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 103

Claims 6-13 and 20-25 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Seo et al. (U.S. Patent No. 5,825,437, hereinafter "Seo") in view of Grace et al. (U.S. Patent Publication No. 2002/0196386, hereinafter "Grace") and further in view of Nasu et al. (U.S. Patent No. 5,496,752, hereinafter "Nasu") The Examiner states that Seo discloses all of the elements of the abovementioned claims except that, *the metal oxide is opaque*, which the Examiner further states is disclosed by Grace, and except that, *the metal film is uncovered by the opaque metal oxide film*, which the Examiner further states is disclosed in Nasu. Applicants respectfully traverse.

Independent claim 6 recites, *inter alia*,

"wherein the gate wire or the data wire comprises a metal film including a conductive material disposed on the insulating substrate or the gate insulating film and an opaque metal oxide film including an oxide of a conductive material disposed on the metal film, wherein the opaque metal oxide film of the gate wire and the data wire block light, and a side of the metal film is uncovered by the opaque metal oxide film."

Seo is directed to a structure of a liquid crystal display ("LCD") device. (See Title). The LCD device includes a substrate, a first metal layer and a second metal layer. (See Abstract).

The first metal layer includes an aluminum alloy having a first refractory metal, and the second metal layer includes a pure aluminum or an aluminum alloy having a second refractory material. (*Id.*) The LCD prevents the occurrence of hillocks on the aluminum gate metal. (*Id.*) Seo discloses a signal line that is composed of a gate line 1 (i.e., composed of 2b) arranged on a substrate, a gate electrode 2 (i.e., composed of 2a) connected to gate line 1 and a pad 3 (i.e., composed of 2c). (See Col. 1, line 55 through Col. 2, line 8 and FIGs. 1 and 2).

Grace is directed to a method of making a hybrid display device. (See Title). The display device includes a front panel 12 and a back panel 14, with a layer of liquid crystal material 16 disposed between the front and back panels 12 and 14. (See paragraph [0041]). Grace discloses that the front panel 12 includes front electrodes 24, and the back panel 14 includes back electrodes 34. (See paragraph [0042]). Grace also discloses that the back panel 14 may be opaque. Grace further discloses that the back electrodes 34 may be opaque electrodes. (See paragraph [0048]).

More specifically, Seo specifically teaches in FIG. 8 relied upon by the Examiner a first anodic oxide film 4a is formed on the sidewalls of each first metal layer 2a, 2b and 2c, and a second anodic oxide film 4b is formed on the entire surface of each second metal layer 3a, 3b on lines A-A' and B-B'. (Emphasis added.) (Col. 7, lines 48-53.)

Thus, Applicants respectfully submit that neither Seo nor Grace disclose, teach or suggest *wherein the opaque metal oxide film of the gate wire and the data wire block light, and a side of the metal film is uncovered by the opaque metal oxide film*, as recited in independent claim 6.

Moreover, FIG. 38 of Nasu relied upon by the Examiner discloses a two-layered gate electrode 50 on the glass substrate 21. (Col. 23, lines 47-60.) In particular, Nasu discloses that first, as shown in FIG. 38A, an ITO film 47 and a Cr film 48 are deposited one after another in a thickness of 80 nm, respectively, on the glass substrate 21 by a sputtering method. Then, a photoresist film 49 is applied thereto and is revealed and developed, thereby to form a pattern covering the gate electrode region, the gate bus line region and the gate bus terminal portion.

Then, the Cr film 48 which is not covered by the photoresist film 49 is etched with an aqueous solution containing cerium nitrate secondary ammon as a principal ingredient, and the ITO film

47 thereunder is removed by etching with an aqueous solution containing hydrochloric acid and ferric chloride as principal ingredients, thereby to apply patterning. With this, as shown in FIG. 38B and FIG. 39A, a gate electrode 50, a gate bus line 51 connected thereto and a gate bus terminal portion 52 are formed. (Col. 23, line 61- col. 24, line 9.) Thus, Nasu discloses the ITO film 47 [oxide film] on the glass substrate 21 and the Cr film 48 [metal film] on the ITO film 47 [oxide film], which is opposite to the structure claimed in the present application (i.e., oxide film on metal film, which is on insulating substrate or gate insulating film).

More specifically, neither Seo, Grace, nor Nasu, either alone or in combination, teach or suggest wherein the gate wire or the data wire comprises a metal film including a conductive material disposed on the insulating substrate or the gate insulating film and an opaque metal oxide film including an oxide of a conductive material disposed on the metal film, wherein the opaque metal oxide film of the gate wire and the data wire block light, and a side of the metal film is uncovered by the opaque metal oxide film, as recited in independent claim 6.

Thus, independent claim 6, including claims variously depending therefrom, i.e., claim 7-13, 20, 23 and 24, define over Seo in view of Grace and in further view of Nasu.

Accordingly, it is respectfully requested that the rejection to claims 6-13 and 20-25 under § 103(a) be withdrawn and allow the same to issue.

Conclusion

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

CANTOR COLBURN LLP

By: /James J. Merrick/
James J. Merrick 43,801
Confirmation No. 9540
CANTOR COLBURN LLP
20 Church Street, 22nd Floor
Hartford, CT 06103-3207
Telephone (860) 286-2929
Facsimile (860) 286-0115

Date: December 10, 2008